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Abstracts of Unpublished Masters' Theses Indiana State Teachers College 1938

Pansy B. Walker. *A Mental-Educational Survey of Rea School, Terre Haute, Indiana*. June, 1938. 98 pp. (No. 288.)

PROBLEM. The study was undertaken to obtain intelligence quotients and achievement scores for all of the children of Rea School with two general purposes: (1) to discover outstanding needs of those children in the school at the time of the study and to adjust the teaching program to meet those needs wherever possible; and (2) to form the basis for a system of recording objective educational scores for the pupils of this school.

METHOD. The survey method was used. Intelligence tests were given to all of the children of the school to obtain intelligence quotients. These tests were followed by achievement tests from 2A through 6A. The median scores in all tests were compared with the standard norms established for those tests. Comparisons were made between the various median scores. An analysis chart was used to state the per cent of pupils in each grade who were in grade (within one-half year), above grade,

and below grade. A profile chart was made for each class to show the median scores in each subject tested. Further study was made of the reading scores.

FINDINGS. The median intelligence quotient of the school was found to be 105. There was a preponderance of high I. Q.'s in the lower grades, indicative of the early maturity of children who would later be in the lower range of average I. Q. scores.

The median scores on the achievement tests were generally below the norm and the per cent of children with achievement scores below their grade was high. The classes were uniform in achievement.

The reading scores were not satisfactory but did not account for all of the achievement scores.

Factors, other than intelligence, which affect the educational advancement of the children should be discovered and offset as far as possible.

Limited vocabularies and absence of educational experience outside of school were very noticeable.

An enriched curriculum should be sup-

plied for the children who show acceleration, and diagnostic testing will be necessary for many children with unusual learning difficulties.

Hochstetler, Orville C. *A Study for the Improvement of Teacher Training in the Indiana State Teachers College*. August, 1937. 46 pp. (No. 292.)

PROBLEM. This study, based upon the psychological ratings, scholarship indexes, student-teaching ratings, and superintendents' ratings of students of the Indiana State Teachers College, was made with a fourfold purpose: (1) to determine how closely the four ratings agree in rating the individual teacher; (2) to determine the closeness of agreement for the average teacher and per cent rated above "C" in the various subject major groups; (3) to determine the rating levels for teachers of the various subject major groups; and (4) to determine the rating items most responsible for low teacher rating.

METHOD. The correlation method was used. The available data were for student-teachers graduated from the college in the years 1929, 1930, and 1932. These teachers were grouped into subject major groups representing subjects they were teaching. Tables were constructed showing the average teacher rating and per cent rated above "C" in each major group in each of the four ratings used. Similar tables were constructed for the various specific rating items obtained from the superintendents' rating sheets. Contingency tables were made and from them the efficiency of prediction was computed, showing the per cent better than chance prediction of the student's grade in one rating when that in another is known.

FINDINGS. The highest efficiency of prediction computed was too low to be of any value in predicting a student's letter grade in one rating when that in another is known.

With a few exceptions the four ratings used closely agreed in rating the average teacher and per cent above "C" for each subject major group.

In all subject major groups, low teacher rating is largely due to a need of improvement in the technique of teaching and a

few closely related items that would automatically improve with it. In addition to this, a few groups should improve in items not closely related to teaching technique.

When the four ratings were combined to rank the various subject major groups, the Latin and mathematics groups were definitely at the top; the commerce, English, art, science, intermediate, and music groups composed the average group; the home economics, industrial arts, physical education, and primary groups were the below-average groups; the rural group was in the lowest rank.

The findings of this study closely agree with those of similar studies so far as the major causes of low rating are concerned. There is little agreement between this study and any of the other studies as to the rank of subjects in low rating.

Anson, Bert. *A Study of Retarded Children through Teachers' Subjective Estimates*. June, 1938. 88 pp. (No. 297.)

PROBLEM. This study was made to determine the factors observed by teachers in children who had failed of promotion. The frequency of occurrence of any factor was then noted and its importance in contributing to retardation of the children indicated. The purpose of the data collected was to show the effect which mental, physical, social, or environmental handicaps may produce upon the progress of children in school. It was thought possible that some indication might be given of the effect of the failure in school upon the adjustment of the child.

METHOD. The normative-survey method of approach was selected, as this method of research is best suited to reveal central tendencies or present conditions. As the case method was not possible, it was necessary to select an approach which would permit the formation of satisfactory conclusions from the data collected. A survey of the estimates of as large a group of teachers as possible was desired.

Information on current conditions in a definite locality and over a large number of factors which were present in this locality at that time was sought. The questionnaire type of survey was believed the best method of collecting sufficient data.

A few teachers' estimations concerning the causes of retardation of a few children would have been useless. The subjective opinion of all the teachers from the schools in the locality would have been most desirable.

FINDINGS. This study was intended for the purpose of acquiring information concerning the criteria for retardation of children, as they have been established by the teachers of one county. More than one-half the elementary teachers of the schools from which data were collected contributed to the study. The validity of the study would have been increased had it been possible to obtain data from all the elementary teachers of the county.

A summary of the general conclusions which seem justified by the findings of this study follows:

1. Personal and mental traits possessed by the child are impressed upon the teacher.

2. Physical, social, and environmental aspects of the child's life are unfamiliar to the teacher or are easily forgotten.

3. The educational influences of these latter traits are not sufficiently recognized by the teachers.

4. Children are retarded in their educational careers by conditions and traits, and the fact that various teachers notice and rate these conditions and traits differently accounts for the wide variation in the degree of retardation.

Overpeck, Frances. *An Investigation of Recreational Programs of One Hundred Twenty-Seven Large Industries of the United States*. August, 1937. 51 pp. (No. 314.)

PROBLEM. It was the purpose of this study: (1) to investigate how many industries on a mailing list of 214 manufacturing concerns listed in the advertising section of several popular magazines have recreational programs; (2) to learn the nature of these programs; (3) to determine the motive of the industry in sponsoring the recreational program; and (4) to compare results found by the investigation.

METHOD. Questionnaires were sent to 214 industries whose names were found in the advertising section of several popular

magazines such as *Saturday Evening Post*, *Harpers*, *Fortune*, and others. The material for the thesis was secured from the 127 questionnaires which were returned to the writer.

FINDINGS. Findings were made into tables showing types of industries reporting; types of social recreation and educational recreation sponsored by these industries; and miscellaneous data disclosed by the returned questionnaires.

Charts in the thesis show lists of activities included in leisure time programs of the industries.

The most valuable material was given by the industries having not fewer than three hundred individuals employed.

Practically every industry reporting had a gymnasium.

In many cases industrial recreation is carried on with the cooperation of the city recreation department.

The general trend seemed to be toward recreation for all employees during their leisure time.

McCullough, Carl H. *A Study of the Causes of Disciplinary Problems in the Schools of Indiana*. June, 1938. 99 pp. (No. 315.)

PROBLEM. This study was initiated for the purpose of discovering the basic causes of child maladjustment in the schools of Indiana. Maladjusted children included not only pupils who created disturbances at school, but also children who failed to exhibit desirable personality traits.

METHOD. The questionnaire method was used as a means of collecting the necessary data. Three questionnaires were sent to each of two principals in each county of Indiana. Sixty-one counties and seventy-six schools were represented in the returns. Additional data were obtained from the experienced teachers enrolled at Indiana State Teachers College for the mid-spring term of 1937. The total number of contributors was ninety-three and the total number of usable questionnaires was two hundred six.

FINDINGS. The offenses reported ranged in seriousness from undesirable conduct in class to crimes for which the offenders were placed in schools of correction.

One hundred seventy boys and only thirty-six girls were reported.

Thirty-nine and seven-tenths per cent of the children were retarded.

Twenty-five and two-tenths per cent of the children came from broken homes.

The economic status of the family is on or below the borderline of poverty in fifty-seven and one-tenth per cent of the cases.

Thirty-six and four-tenths per cent of the pupils participated in athletics, but other forms of extra-curricular activities were noted in very few cases.

The children were subjected to lax home discipline in fifty-two per cent of the cases.

Sixty-five and eight-tenths per cent of the children are doing below average school work.

A continuous state of disagreement was found in thirty-two and seven-tenths per cent of the families.

Sanders, Edna M. *A Study of the Relationship between the Time of Study Periods and the Achievement of the Pupils in Ninth Grade Algebra*. August, 1937. 32 pp. (No. 316.)

PROBLEM. The problem which this study has undertaken to solve is whether a study period just preceding or one immediately following the recitation in ninth grade algebra will give the better results, as determined by the test scores of the pupils in that subject. These measures are to be determined by four tests; one at the end of the first six weeks, one at the end of the second six weeks, one at the end of the semester, and one at the end of the fourth six weeks period.

METHOD. The ninth grade class used in the experiment was divided into four groups on the basis of mental ability and as a result of achievement as shown in mathematics work in the 8B and 8A classes in junior high school. The members of each of these four groups were given a group test of mental ability. On the basis of the results shown by this test, each group was redivided into two groups, each individual in each group being matched by an individual with the same I. Q. in the other group. The recitation period was forty minutes long and the study periods in

which the pupils studied in assemblies were of the same length. Half of the pupils in each class group were assigned the period immediately preceding the recitation period, and the other half of the pupils in the group were assigned the period immediately following the recitation as their study period. Both groups in each class were given exactly the same instruction and assignments in the class recitation.

At the end of the first six weeks period, the same objective test was given to all members of each group. The resulting scores were tabulated and compared, being divided into the two groups, those studying before the recitation period and those studying after the recitation period. The same procedure was followed at the end of the second six weeks period, at the end of the semester, and at the end of the fourth six weeks period. A fifth measure for each pupil was obtained by dividing the sum of the scores made on the four objective tests by four. The mean for each group on each test was computed and the means were compared.

FINDINGS. The group studying before the recitation shows a slight superiority over the group studying after the recitation. In general it appears that with students of high ability it matters little whether their study period precedes or follows the recitation. With students of low ability, however, it would result in better achievement if their study period preceded the recitation.

Jones, Orville. *Comparative Study of Retirement Systems of the United States of America*. June, 1938. 102 pp. (No. 317.)

PROBLEM. This thesis is a comparative study of retirement systems for teachers in all the states in the United States, the Territory of Hawaii, and the District of Columbia.

METHOD. The data for this comparative study were obtained from the latest school laws available from each state or territory or district. Other information was obtained from research bulletins from the National Education Association.

FINDINGS. Twenty-eight states have compulsory retirement; eleven states have local permissive retirement; and nine states

have no form of teacher retirement.

Three general plans have been followed with respect to financing teacher-retirement systems: (1) the free plan, whereby retirement benefits are paid entirely out of public funds; (2) wholly contributory plan, supported wholly by teacher assessments; and (3) joint contributory plan, whereby contributions are made by teacher assessments and also from public funds.

Twenty-one states have the joint contributory plan, three states have the free plan, and three states have the wholly contributory plan.

The largest per cent of the states pays to the teacher who withdraws from further service before becoming eligible to a retirement annuity all contributions made to the retirement fund.

In all the states that have compulsory retirement laws except California, the teacher assessments are deducted from teachers' salaries.

Ten states—Connecticut, Louisiana, Maryland, Massachusetts, New Jersey, New York, Ohio, Pennsylvania, Texas, and Utah—have a compulsory retirement age at seventy years.

Approximately seventy per cent of the states requires from ten to fifteen years of service before one is eligible for a disability annuity.

The largest per cent of the states requires from twenty-five to thirty years of service and sixty years of age before normal retirement.

Indiana is the only state that requires forty years of service before normal retirement.

Maine is the only state in the Union which has two types of retirement systems. The state retirement system is supported by the teachers, and the teachers' pension system is supported by the state alone.

To have a sound retirement system, membership should be compulsory for teachers entering the service.

The administrative functions of the pension systems are invested in retirement boards, boards of trustees, or state boards of education.

William, Ira Earle. *An Analysis of Guidance Programs (Educational and Vocational) in High Schools of Various Sizes*

with a Proposed Program for Linton-Stockton High School. June, 1938. 94 pp. (No. 318.)

PROBLEM. This study was undertaken to make an analysis of guidance programs (educational and vocational) in high schools of various sizes and in consideration of that data to evolve a more satisfactory guidance program for the Linton-Stockton High School.

METHOD. The writer made a study of high schools of various sizes through programs that have been outlined by the guidance directors and by personal interviews with the various principals of schools that have definitely prescribed guidance courses.

FINDINGS. The most important part of the initial work was likely to be that of selling the idea. In practically all of the small schools the principal acted as the guidance director. In home-room guidance all were provided a means of becoming interested in the guidance program. A need for the study of occupations was present. Pupils secured information on occupations and avocations by visits, talks, reading, school clubs, films and slides, outside agencies, and finding courses. Vocational interests were not as important as vocational abilities. The guidance organizations were lacking in the majority of the schools with enrollments of less than two hundred students.

The four chief duties of deans, e. g., discipline, social conduct, supervision of extra-curriculum activities, and control of attendance, are in the main administrative duties instead of those of counselors. Home-rooms were utilized for guidance in one-fifth of the schools with enrollments of less than two hundred students. Teacher advisers were used chiefly by the smaller schools. There was little money available for guidance work. The small schools gave practically no recognition to the problem of placement. In schools that have counselors, a woman was counselor for girls and a man was counselor for boys. Many of the small schools were too subject-centered to give the necessary attention to individual problems.

In the medium-sized school little or no guidance work was done. They did not have

counselors to spend the needed time on students' programs. A pronounced lack of interest was shown in the placement of the students. The high school that needed development more than any other was the medium-sized school. Most of the follow-up was done on an unorganized basis. Most of the guidance in curriculum making was given at the beginning of the year. The individual student did not have guidance unless he presented an unusual problem. Due to a lack of understanding, the medium-sized school seemed to reflect a certain degree of helplessness in preparing a guidance program.

In the large high schools the work of guidance was in the hands of a guidance director or counselor. Seldom did the principal of the larger schools personally carry on the guidance work. The home-room was more frequently used than any other as the unit of the guidance program. The visiting teacher was utilized in schools with more than one thousand enrollment to the same extent as the guidance committee. Most large schools were able to finance a guidance program rather extensively. The home-room adviser, dean of girls, and dean of boys were most commonly the guidance officers.

Gill, Lela Merres. *A Program for Fifth and Sixth Grade Reading*. August, 1937. 165 pp. (No. 319.)

PROBLEM. The purpose of this study was to develop a reading program for the fifth and sixth grades of enriched experiences that enables the child to live today as well as prepares him to live tomorrow. This program was based on the findings of scientific research.

METHOD. The experimental method was used. A group of thirty-one children was selected—sixteen in the sixth grade and fifteen in the fifth grade. Class weaknesses were determined by comparing class medians with grade norms. Individual diagnoses were made and weaknesses of individual pupils were studied.

In order to carry out a reading program which would provide for the needs of the pupils as they were revealed by the reading tests and which would offer the rich experience that was the goal of this study,

provisions were made for work-type and recreatory reading. Two periods a week were devoted to work-type reading and three periods to recreatory reading.

At the end of the semester tests were again administered to measure the improvement made by the groups and by the individual members of each group.

FINDINGS. Normal progress would lead one to expect five months progress in reading skills as the result of a semester's work. The test scores indicate that under the present reading program, the progress was significantly greater. The sixth grade group showed 1.6 years improvement on total score. There was a gain of .7 year on word meaning, of 1.2 years on fact material, 1 year on total meaning, 1.2 years on following directions, and .8 year on organization. The improvement was too high on rate and central thought for computation of the actual gain in years, but it exceeded 1.5 years in rate and 2.9 years in central thought.

The fifth grade group showed an improvement of 1.1 years on total scores. There was a gain of 1 year on word meaning, 2.2 years on rate, 1.1 years on fact material, 1.8 years on total meaning, 3.7 years on central thought, no gain or loss on following directions, and .8 year on organization.

The experiment also revealed that the pupils in the middle group made greater improvement than the pupils in the upper or lower quartiles.

Milburn, James L. *A Survey of Industrial Arts Printing in the United States*. August, 1937. 50 pp. (No. 320.)

PROBLEM. This study was a survey of the practices in the public high school printing departments of the United States in respect to aims and teacher objectives, teacher training, size of classes, teaching material, production work, equipment, and special shop problems. Only the schools teaching industrial arts printing were considered.

METHOD. The information was gained by use of a questionnaire. The writer attempted to send a copy of the questionnaire to one-third of the high schools in each state that were listed as offering industrial arts printing. Each state that had at least one

high school teaching industrial arts printing is represented in the study. One hundred eighty-two questionnaires were mailed to the heads of the printing departments and one hundred fourteen were returned. Replies from eighty-seven schools representing all sections of the United States were used.

FINDINGS. Approximately eighty-nine per cent of the schools accepted general education as their specific aim, either alone or in combination with the exploratory aim.

Fifty-five per cent of the teachers have either one or more degrees. Thirty-three per cent of the teachers have more than four years of college work. More than fourteen per cent reported no college work. Thirty-two teachers indicated teaching experience of ten years or less; there were twenty-one that had had no shop experience outside of the school shop.

No other subjects were taught by sixty-eight of the ninety-five teachers included in this survey.

Eighty-four schools reported a total of 8,749 printing students, an average of 104+ for each school.

More than sixty-eight per cent of the schools had twenty or more students in each class.

The printing classes met five days a week in nearly all of the schools but the minutes per day varied from forty to one hundred twenty. Sixty-eight schools reported one thousand or more for their total enrollment.

No textbooks were used by forty schools.

Each objective submitted was accepted by more than half of the teachers.

All of the schools except one indicated that the print shop did production work.

Fifty-one of the teachers reported that they controlled the production work. There were only eleven cases in which the school shop had the disfavor of the commercial shops.

Using the medians found through this survey, one may assume that the typical high school printing instructor has four years of college training, 12.7 years of teaching experience, and four years of shop experience outside of the school shop. The typical printing class has 23.3 students in it and meets for sixty-four minutes per day.

The enrollment in the typical high school offering industrial arts printing is 1,776, and the typical high school offers printing 4.2 semesters. The shop in this school has equipment valued at \$4,715.29 and its production work is estimated at \$2,334.33 annually.

Forster, Harry L. *A Study of One Thousand Cases of Delinquent Boys of the Edison School of Cleveland, Ohio, with Emphasis on Certain Conditions in their Background and Their Disposition on Leaving the Edison School.* August, 1937. 87 pp. (No. 321.)

PROBLEM. This study was undertaken with a threefold purpose: (1) to determine the basic factors which cause delinquency; (2) to compare the causes of delinquency as found in Edison School pupils with the causes of delinquency found in other studies; and (3) to follow up the delinquent Edison School boy as far as his school record permits.

METHOD. The research method was followed. Information concerning one thousand boys who attended Thomas A. Edison School between the years 1924-1934 was tabulated. The information was gathered from three different sources; (1) case studies, (2) permanent school records, and (3) form letters and blanks sent to the various schools to which the boys were transferred from Thomas A. Edison School.

FINDINGS. Of the one thousand boys sent to Thomas A. Edison School, 82.3 per cent of the boys were between the ages of thirteen and sixteen years inclusive.

The average age of the Edison School boy is similar to the age of boys in other studies.

The typical Edison School pupil has a dull normal mentality. The median I. Q. was eighty-five. This median is similar to the median found in other studies. Most of the boys were retarded one or more years in school before entering Thomas A. Edison School.

A total of 386 boys (38.6 per cent) came from homes that were broken because of death, divorce, or desertion. The percentage of broken homes was lower than in similar studies.

There were 58.8 per cent of the mothers

or step-mothers employed full- or part-time.

In 80.4 per cent of the cases there were four or more children in the family. The median number of children in the family was six.

The position of the child in the family has no direct bearing upon delinquency, but delinquency occurs in larger families more often than in small ones.

Most of the parents were poorly educated. Seventy-three and four-tenths per cent of the fathers were of foreign birth. Of the 734 foreign born fathers only 256 have become citizens while 154 others have their first papers of citizenship.

The final disposition of the one thousand boys is as follows: 572 received work permits; 250 ran away, moved out of the city, were excluded, or were deceased; 161 were sentenced to corrective institutions; 10 graduated from the twelfth grade; 5 were still in school; 2 were sent to feeble-minded institutions.

Of the 572 who received work permits one-half finished the work of the junior high school.

Burke, Edward F. *A Study of the Relationship of Scholastic Achievement to Citizenship, Extra-Curricular Activities, Activities outside the School, and Religious Affiliations of High School Students in Huntington, Indiana*. August, 1937. 42 pp. (No. 322.)

PROBLEM. This study was undertaken with the purpose of determining the coefficient of correlation between academic rating and religious, extra-curricular, outside activities, and citizenship ratings of the Huntington, Indiana, high school students. In addition, a comparison of correlations for each of the freshman, sophomore, junior, and senior years is made. Also, this study attempts to answer a few questions more or less closely related to this problem.

METHOD. The research method was followed in this study of 848 cases of high school pupils. The scholastic standings of the pupils were taken from the report cards. The citizenship marks were taken from the record cards and juvenile court records. The extra-curricular activities were taken from the school annual. The

religious affiliation and outside activities of all the students were secured through a questionnaire.

FINDINGS. When the scholastic standing was correlated with *religious rating*, the freshman class had a correlation of .546, the sophomore class one of .571, the junior class one of .434, and the senior class one of .35, with a combined correlation of .475.

When the scholastic standing was correlated with *extra-curricular ratings*, the freshman class had a correlation of .393, the sophomore class one of .358, the junior class one of .399, and the senior class one of .514, with a combined correlation of .416.

When the scholastic standing was correlated with the *citizenship ratings*, the freshman class had a correlation of .446, the sophomore class one of .668, the junior class one of .652, and the senior class one of .49, with a combined correlation of .564.

When the scholastic standing was correlated with *outside activity ratings*, the freshman class had a correlation of -.008, the sophomore class one of .153, the junior class one of .067, and the senior class one of -.034, with a combined correlation of .056.

The extent of pupil participation and success was made for each class in scholastic standing, extra-curricular activities, citizenship, religion, and outside activities. This is shown in table and graph form in the original study.

Tirey, Robert E. *A Study of Opinions as to the Value of the Master's Thesis as Held by Graduates of Indiana State Teachers College*. August, 1937. 33 pp. (No. 323.)

PROBLEM. This study was undertaken to determine what value the graduate students of the Indiana State Teachers College place upon the thesis preparation as a partial requirement for the master's degree. It endeavored to discover whether, in the opinion of these graduate students, it would be better to dispense with this requirement or to make the thesis writing optional, requiring more classroom work if the thesis should not be prepared.

METHOD. The research method was followed. A questionnaire was prepared and copies were mailed to two hundred and

sixty-three persons who had received master's degrees from Indiana State Teachers College. One hundred and eighty-two questionnaires were returned and from these the findings were gleaned and classified. A study was also made of some of the current literature on this subject and the leading conclusions were incorporated in the study.

FINDINGS. Of thirty-four prominent teachers colleges, twenty-four require a thesis, three make this work optional, and seven do not require it. (See Table I in original study.) Another study shows that, of twenty-eight colleges, seventeen require the thesis while nine make it optional. Still another study shows that, of eighty-nine institutions conferring the master's degree, about ninety per cent either require the thesis or make it optional. Sixty-eight per cent of the teachers colleges which conferred the master's degree in 1935-1936 required theses.

The responses to the questionnaires show quite conclusively that, so far as Indiana State Teachers College is concerned, the verdict is in favor of the thesis requirement. One hundred and sixty-two replies asserted that the thesis work was valuable, while twenty doubted the helpfulness of this work. The average time spent in preparing the thesis was twenty-eight weeks. The average cost of the thesis work was eighty-two dollars. Eighty-eight replies showed a preference for substituting classroom work for the thesis preparation, while ninety-four voted for the continuation of the thesis as a more helpful course.

One question asked of the graduate students was whether they felt a thesis should be required of candidates for the bachelor's degree. One hundred and sixty replied "No," while only twenty-two replied "Yes."

This question was asked, "Would it be wise to omit the writing of the thesis entirely and to substitute class work instead?" One hundred and nineteen voted "No," fifty-four voted "Yes," and nine voted to make it optional.

In every case, the sentiment expressed in the answer to the questionnaire and in the study of literature dealing with this question was favorable to the continuation

of thesis requirement for the master's degree. So far as Indiana State Teachers College is concerned, there is no doubt about this matter.

Edwards, Gertrude W. *The History of the Gerstmeyer Technical High School*. August, 1937. 59 pp. (No. 324.)

PROBLEM. This study was undertaken with the purpose of showing the founding, the growth, and the development of the Gerstmeyer Technical High School.

METHOD. The historical method of research was followed. Sources of data used were: (1) bulletins; (2) histories of the different departments; (3) histories of the extra-curriculum program; (4) interviews; (5) minutes of the Terre Haute School Board; (6) pamphlets; and (7) Terre Haute newspapers.

FINDINGS. Analysis of the data revealed that the courses of study and the extra-curriculum program were the important factors determining the growth and the development of the Gerstmeyer Technical High School.

The following facts concerning the courses of study influenced the growth and the development of the school: (1) courses of study used in the two vocational schools; (2) changes and additions made in the different courses of study of the Gerstmeyer Technical High School; (3) courses of study offered only to boys; (4) courses of study offered only to girls; (5) courses of study offered to both boys and girls; (6) flexibility in the academic, vocational, and technical courses of study; and (7) that students who transferred from the two-year course to the four-year course did not lose any credits.

The following facts concerning the extra-curriculum program influenced the growth and development of the school: (1) the variety of activities offered; (2) the time the activities are held; (3) the freedom of choice in joining an activity; (4) the desire of the students to participate in different assembly programs; (5) the development of interest in a hobby; (6) preparation for use of leisure time; and (7) development of leadership and citizenship.

Houk, Willa Mae. *A Study of Science Teachers and Science Instruction in a Se-*

lected Group of Indiana Cities. August, 1937. 87 pp. (No. 325.)

PROBLEM. This investigation was undertaken for the purpose of collecting data concerning the academic and professional training of science teachers in various cities, of comparing these findings, and of interpreting them in relation to state laws and regulations.

METHOD. Eighteen cities were chosen from eighteen counties in the state. These cities were chosen because they were comparable in size or in higher educational opportunities and were located throughout the state. The name of each science teacher in every commissioned secondary school of such cities was obtained from the *Indiana School Directory*.

A questionnaire was sent to those teachers to secure information concerning their classes and to obtain an accurate current record of their graduate work.

The licensing bureau and the annual high school report files in the State Department of Education were sources from which records of undergraduate work and other data were obtained. When the record of any teacher varied on two reports, the more encouraging record was used. If the records appeared alarmingly meager, they were re-checked in the licensing department of the institution in which the teacher took his undergraduate work.

FINDINGS. This study shows that few new teachers are entering the field of science in the cities studied. This is perhaps explained by the reduction of teaching force because of the "depression," tenure, and "blanket licenses."

The average number of students in a class is twenty-eight, but the average in some cities is higher. Some classes are extremely large.

Most of the science teachers in these cities are tenure teachers as evidenced by the fact that the average number of years of teaching experience is 19.67 and that only twenty-seven of the one hundred thirty-nine teachers studied have taught ten years or less.

Fourteen and four-tenths per cent of the science teachers have "blanket licenses." For some the writer could find no record of science credits from any college. The

"depression" may have caused teachers to go into new undesired fields. Still, these people may hold licenses because until 1923, it was not necessary to file college records of credits to obtain a teaching license. Licenses were earned by passing examinations. Under this system a teacher could earn a license in a subject in which he had no college work.

At present 22.6 per cent of the biology teachers are better trained in some other science. This is true of 12.5 per cent of the botany, 23.3 per cent of the chemistry, 44 per cent of the general science, and 15 per cent of the physics teachers.

The teachers teaching science in cities studied have from twenty-four hours to a major in science. The average number weeks of training is 177.67, which is about five years of training. This is startlingly low when you consider that the average number of years of experience is 19.67 years.

The last year for attending school is quite significant. The average for the teachers studied was 1926.

These figures seem to indicate that few new teachers of science are being employed in these cities. The fewer the years of teaching experience, the higher the average weeks of training, and the later the average year last in school.

Naugle, Carl Elvin. *History of Washington County Seminary and Its Founder*. June, 1938. 34 pp. (No. 326.)

PROBLEM. This study was undertaken to determine the contribution of Washington County Seminary and of John I. Morrison to the field of early education in Indiana. Time and research were used to locate sources and collect information about the history of the school. Above all, in compiling the history of Washington County Seminary, the information about John I. Morrison, the founder of the institution, was to be the outstanding part of the research.

METHOD. In order to discover the information desired several solutions were planned. Persons who had had some indirect connection with Morrison or the seminary were interviewed. Search for information was made in the Indiana State Teachers

College Library, the State Library, the City Library of Terre Haute, and the Salem Library. The writer found it interesting to study the old papers and materials in the Historical Room of the Washington County Court House. Much of the information was obtained from the speech of Barnabas C. Hobbs, "History of Washington County," and old clippings possessed by Mrs. Harvey Morris, chairman of the Washington County Historical Society.

FINDINGS. The story of Washington County Seminary was found to be so closely interwoven with the story of the life of John I. Morrison that they could not be separated.

The writer found that information concerning the Washington County Seminary was very meager. Today the buildings, records, and equipment of the Washington County Seminary are all gone.

Every influence of the institution and its founder was vitalizing and elevating. Mr. Morrison was personally an initial factor or leading spirit in a series of social movements that made Salem for many years a center of learning and civic discussion, of public enterprise and improvement of the state, sharing with New Harmony the credit of making southern Indiana known.

The writer found that a picture of the school's great founder and a few yellow clippings and sketchy recollections of the school are all the material things that remain, but the spirit and educational influence of the school go on.

Rissler, Herbert E. *A History of Education of Clay County, Indiana*. August, 1937. 84 pp. (No. 327.)

PROBLEM. The purpose of this study was to compile for the people of Clay County a history of its schools from their beginning to the present time. In addition, the writer, having been born and reared in Clay County and having been engaged in teaching there, wished to secure a more accurate and general knowledge of the development of education in that county.

METHOD. The historical method of research was used. Very valuable sources of information were county histories, official records and reports, and newspaper files. Personal interviews with pioneer teachers and local historians were very helpful.

FINDINGS. It was found that in many communities of the county very little interest had been taken in preserving the stories relating to the pioneers and their schools.

An economic change is taking place in Clay County. Strip-mining is permanently ruining thousands of acres of valuable land. This land in time will be removed from the tax duplicate, thus making it more difficult for the citizens to finance the functions of government and the schools.

All townships and town corporations are now receiving state relief.

The population of Clay County has constantly decreased since 1900.

Clay County's 4-H Club work under competent leadership is expanding.

All congressional school lands have been disposed of.

The amount of taxable property in the different school corporations varies greatly, thus creating educational inequalities.

School costs have increased due to an increased enrollment and enlarged courses of study.

Teachers' salaries today are much greater than in pioneer days, but they are not commensurate with the salaries of other public officials and with the amount of preparation required.

The development of education in Clay County is very much the same as in any average Indiana county.

Green, Vern A. *The Effects of Mathematics on Achievements in Physics*. June, 1938. 69 pp. (No. 328.)

PROBLEM. This study was undertaken to determine: (1) Whether or not mathematics and high school physics are closely related, and, if it is true, what should be the mathematics required to do successful work in physics? (2) The relation of achievement in physics to native intelligence and English marks. (3) Should girls be afraid to elect to study high school physics?

METHOD. The data were obtained from the records in Shortridge High School of Indianapolis. The data included the physics marks of five hundred pupils with the accompanying mathematics marks, English averages, and intelligence scores.

The data were interpreted by the statistical method in two ways. The first was by dividing the data on the basis of the physics marks. Thus the data were divided into five groups. The coefficients of correlation derived from the averages of these five groups were naturally very high and unreliable.

The second method was the more important treatment of the data as far as correlations were concerned. The correlation of the individual scores for three groups was found. The three groups of records were made up as follows: one hundred boys and girls, one hundred girls, and one hundred boys. The results of the two methods in general show the same trends.

The coefficients of correlation for English and physics are not to be compared with those found for physics, mathematics, and intelligence because the relation of English to physics was treated in a minor way.

FINDINGS. The major conclusions answering the questions asked in the statement of the problem are as follows:

Achievement in high school physics is not greatly affected by mathematical preparation. There is a higher correlation between mathematics and physics for boys than for girls. The coefficient of correlation found for the boys was .583, while for the girls it was .357.

A definite mathematical requirement could not be determined by this study. Others have found that algebra and plane geometry should precede the study of secondary school physics.

Intelligence is another factor in achievement in high school physics. The effects of intelligence are more pronounced in the case of the girls. The coefficient of correlation for the girls was .507, while for the boys it was .429.

The correlation between English averages and physics marks is fairly high as determined by this study. The coefficient of correlation was found to be $.605 \pm .042$.

Girls make good marks in high school physics even though they have had less mathematical preparation than boys.

Irwin, Eithel Bray. *Contributions Home-Making Classes Should Make to the Future*

Education of Boys and Girls. June, 1938. 104 pp. (No. 329.)

PROBLEM. This study was made in order to determine, in so far as possible, the home and community interests and activities of the women and girls in Daviess County, Indiana, and to determine how nearly the teaching of the home-making classes is meeting the needs of the student. It is necessary to discover what subject matter is needed so that it may serve as a basis for planning courses which will have as their immediate aim better living in the home and community.

METHOD. Questionnaires were taken to the 4-H Club girls who were in high school and to the women who were members of home economics clubs. Two hundred seventy-five questionnaires were passed out and one hundred ninety-three were returned. Ninety were from the women and one hundred three from the girls. From these returns data for this thesis were collected.

FINDINGS. After a careful consideration of all the data found in relation to the problem under study, the writer made the following conclusions:

Too much emphasis had been placed on cooking and sewing, which meant that attention has been centered on skills rather than on home-making. Only 66.84 per cent of the women and girls thought it of great value to construct clothing.

Only 47.15 per cent thought the use of the dictionary, encyclopedia, and other reference material was of great value in home-making classes.

Heredity was not considered of great importance in the health of the individual as only 70.98 per cent checked this point. A larger percentage thought that environment was of value for 83.42 per cent checked this point.

Only three items rated above eighty per cent on efficient citizenship. Judgment in the use of money had a percentage of 89.63. The developing of a better standard of living was checked by 84.97 per cent, showing the group is interested in improving conditions.

Eighty-one and eighty-six hundredths per cent checked that a proper respect of the laws was necessary. Conditions affecting industrial growth and development

were considered of great value by only 52.85 per cent. They probably thought this did not directly concern them.

Eighty-two and thirty-eight hundredths per cent expressed a desire for help in knowing what contributions books and magazines might make. Only 79.27 per cent expressed an interest in wholesome recreation for the family.

No item had a percentage of less than 82.38 when checked by the group on keeping mentally fit.

Only 53.37 per cent of the group thought it of any importance to teach an understanding of the various religions. Eighty-seven and four-hundredths per cent of the group thought an attitude of tolerance and respect for the religions of others is necessary.

Only 66.84 per cent of the women and girls felt it necessary to construct clothing for the entire family, and 70.46 per cent thought merchandise should be known and bought by labels.

In view of these facts it is our duty to train girls and boys for worthy home membership.

Burke, Maurice H. *Chauncey Rose—His Life and Contribution to Education*. June, 1938. 64 pp. (No. 330.)

PROBLEM. The purpose of this study is to unfold to the people of Terre Haute, of Vigo County, and of the community the life of a great man whose philanthropic gifts have been a great influence on the life of a community and to acquaint them in a better way with four institutions that form an integral part of the life of Terre Haute and Vigo County.

METHOD. The historical method was followed in the study. Visits were made to the four institutions that comprise the study, and officials, including the head of each one of the institutions under study, were personally interviewed. Access to all the old records as well as current records was both freely and kindly given by Dr. D. B. Prentice of the Rose Polytechnic Institute; by Mr. E. Alden, Superintendent of the Chauncey Rose School; by Dr. F. L. Wedel, Mr. Grover Kohl, and Mr. Frank Smallwood of the Rose Dispensary, and by Mrs. B. B. White of the Rose Ladies' Aid

Society. The librarians of both the Rose Polytechnic Institute and the Emeline Fairbanks Memorial Library as well as those of the Indiana State Teachers College Library rendered much valuable aid in going through old files for interesting and important data. A personal visit was made with Mr. Harry S. Wedding, librarian of Wabash College, Crawfordsville, Indiana, who made possible the data concerning the gifts of Chauncey Rose to Wabash College, by hunting up old college records.

The librarian and town clerk of Wethersfield, Connecticut, the native city of Chauncey Rose, was contacted by letter and answered many questions asked by going through old records and also gave additional valuable information. This willingness on the part of Mr. Arthur C. Willard enabled the writer to know of Mr. Rose's followers who keep alive his memory in his native city.

Attendance of the writer at some of the functions of the institutions under study enabled him to give first-hand information as was actually witnessed. As a spectator in the laying of the cornerstone in the ceremonies at the Chauncey Rose Memorial on Dresser Drive, Terre Haute, Indiana, an impartial description can be given.

FINDINGS. In the history of Terre Haute and Vigo County no one has ever equaled the philanthropy as shown by Chauncey Rose. His generous gifts are known in the New England States, in the South, and in the Middlewest.

Chauncey Rose made no discrimination in his beneficence but gave to any one worthy whether colored or white, Protestant, Catholic, or Jew. He gave to individuals, schools, churches, orphanages, hospitals, and to many organizations. Most of these gifts were given without any desire for recognition by the donor but in many cases the gift was of such magnitude that acknowledgment was made by the recipient.

There are four great institutions that will perpetuate the name of Chauncey Rose and hand it down to posterity. These institutions are the Rose Polytechnic Institute, the Chauncey Rose School, the Rose Dispensary, and the Rose Ladies' Aid Society.

All of these are assured of permanency because of the substantial endowments left to them by Chauncey Rose. In many the original endowments have been added to by public spirited citizens. These institutions have all become such an integral part of Terre Haute, Vigo County, and the surrounding community that the loss of any one of them would be keenly felt.

Posey, Charles J. *History of Education in Daviess County, Indiana*. June, 1938. 137 pp. (No. 331.)

PROBLEM. This study was undertaken in order that a record of the beginnings of educational work in Daviess County and of the subsequent development of this work to the present time might be made and preserved showing the effects of various forces, mental, physical, and legislative, on the development.

METHOD. The historical method was followed. Calls were made on numbers of the older citizens of the different townships to hear their reminiscences of the early schools of the county. Notes were taken and their stories compared to determine facts. Trips were made to the libraries at Mt. Vernon, Vincennes, Washington, Odon, Indiana University, Terre Haute, and Indianapolis where historical books were searched for additional information. Files of the early newspapers of the county were searched for items concerning schools. All the original county records on file in the Archives of the Indiana State Library were studied, also the records preserved at the county court house.

FINDINGS. The inadequacy of the early schools and the inequality of educational opportunities offered appear to be mainly accountable to two factors, the lack of finances and the inefficiency of organization under local control. The growth of educational facilities and opportunities seemed to keep pace with the growth in centralization or state control.

Snyder, Roy R. *A History of the Development of Vincennes Public Schools 1853-1938*. June, 1938. 90 pp. (No. 332.)

PROBLEM. The purpose of this study was to trace step by step the history of the development of Vincennes public schools from

the time of their origin in 1853 to 1938. This development was revealed through the study of the records of the school trustees of Vincennes and the files of the Vincennes newspapers.

METHOD. The progress of education in the Vincennes schools was traced step by step through the administration of each principal or superintendent from 1853 to 1938. The records of the school trustees of Vincennes, which are on file in the office of the superintendent of the city schools, and newspaper files in the local library were used for this research.

FINDINGS. The Vincennes schools for the first half of the nineteenth century were either private or parochial except for the accommodations that were afforded at the Vincennes University or the Knox County Seminary. The free public school system was inaugurated in Vincennes in 1853 with the election of a board of three school trustees. The records of these trustees show that no teachers were employed and no public schools were opened until 1855.

The first school term was three months in length and only three teachers were employed. These teachers taught in rented rooms in various parts of the city.

The first public school building in Vincennes was erected in 1861 on the corner of Seventh and Buntin Streets. This building was known as the Central School.

A school for the colored children of the city was established in 1870. Thus the interests of all citizens, regardless of race, were considered.

The first public high school in Vincennes was established in 1871. The first commencement exercises were held in 1874 for a class of fifteen members.

Kindergartens were opened in the Central and North Vincennes Schools in 1898 and since that time have been established in the various elementary buildings of the city.

The school trustees authorized the first Vincennes basketball team of seven boys to represent the school at the state meet at Bloomington in 1914. However, the trip was to be made without any expense to the school board and the principal was made responsible for the proper conduct of the boys.

By 1916 manual training, home economics, and printing had been added to the high school curriculum.

A public library was built in 1917, and, under the control of Vincennes school trustees, has become an indispensable factor in the city's public school system.

The National Honor Society was established in Vincennes High School in 1924 and has been an outstanding influence in the school in scholastic achievement and character building.

The Vincennes school system has grown to one of one hundred twenty-five teachers employed for a term of nine months. In 1937 the Vincennes school city owned nine buildings that housed the seven elementary schools, the junior high school, and the senior high school, which is known as the Lincoln Senior High School.

Davidson, Ralph E. *A Survey of the Mental Ability and the Personality Adjustment of the 250 Pupils of Concannon High School*. June, 1938. 65 pp. (No. 333.)

PROBLEM. The purpose of this study was: (1) to ascertain the amount and distribution of mental ability of the pupils of Concannon High School; (2) to learn the degree to which these pupils were adjusted to their school and home environment; and (3) to secure other personal and sociological data which would be helpful in accounting for the findings concerning mental ability and adjustment.

METHOD. The research method was followed. Teachers of the school ranked the pupils by classes according to general innate ability rather than achievement in a particular subject; they then named the ten pupils whom they considered best adjusted, and the ten pupils who were in their opinion the most maladjusted members of the high school.

Then two standardized tests were given. The first to be given was the Henmon-Nelson *Group Test of Mental Ability*. The other test administered was the *Adjustment Questionnaire* by Percival M. Symonds.

Additional information was secured at the time the tests were given. The scholarship index of each pupil was found. The following data were then available: (1) chronological age; (2) mental age; (3) in-

telligence quotient; (4) teacher rating of intelligence and adjustment; (5) favorite subject; (6) intending to go to college or not; (7) number of children in family; (8) broken home or not; (9) father's occupation; (10) amount of schooling of parents; and (11) scholarship index. Various correlations and comparisons were developed from these data.

FINDINGS. The general level of intelligence for Concannon High School pupils as found by the Henmon-Nelson Test was below that for the United States in general. This finding was substantiated: (1) by the large percentage of fathers who were day laborers; (2) by the large number of children per family; and (3) by the limited education of parents. The large percentage of broken homes was not found to be closely related to intelligence of the children.

Teacher rankings of intelligence correlated positively (.64) with I. Q. rankings, but very pronounced differences were found in many individual cases. The correlation between scholarship indexes and I. Q.'s was .59.

A survey of favorite subjects of pupils showed a wide choice. The relationship between intelligence and choice of subject was not at all pronounced.

The fact that forty-four per cent of the pupils said they will attend college indicated that they are becoming "college conscious."

There was almost a total disagreement between those selected by the teachers and by the Adjustment Questionnaire as the ten best adjusted and the ten most poorly adjusted pupils of the high school.

An only child was found to be the most unfavorable condition for good personality adjustment. Those who were one of two or of four children made the highest average scores.

Pupils from broken homes were approximately as well adjusted as those from unbroken homes.

The correlation between intelligence and adjustment was too low (.149) to be significant.

The girls were found to be better adjusted than the boys.

Those pupils who said they were not in

good health formed a poorly adjusted group.

Murphy, Earl P. *A Study of the Knowledge of Mental Hygiene of Students in Indiana State Teachers College and of Teachers with Experience*. June, 1938. 58 pp. (No. 334.)

PROBLEM. The study was an attempt to discover how well teachers and prospective teachers understand the principles of mental hygiene as it applies to the teacher, to the teaching act, to classroom discipline, to other relations that a teacher might have with pupils, and to school administration.

METHOD. By reviewing a number of books, bulletins, and periodicals that contained material on mental hygiene or material relevant to mental hygiene, a list of one hundred principles was compiled. A four-response multiple-choice test of one hundred items was made by basing a test item on each of the principles. The test was taken by two hundred fourteen students and ninety-one teachers.

FINDINGS. The teachers knew little more about the principles of mental hygiene than the students.

The students who were candidates for an elementary teacher's license did as well as the students who were candidates for a high school teacher's license.

The elementary teachers did almost as well as the high school teachers.

The students and teachers who had taken a course in adolescent psychology or in child psychology knew no more about the principles of mental hygiene than the students and teachers who had not taken such a course.

All individuals, as a group, erred on approximately one out of four of the principles of mental hygiene.

Twenty-three principles were relatively unknown, as the percentage of error on them was forty per cent or more.

The students and teachers, as a group, did well on the test, as they made a mean score of seventy-six on a test of one hundred items.

McCowen, Max C. *A Controlled Experiment in Visual Education in General Science*. June, 1938. 50 pp. (No. 335.)

PROBLEM. It was the purpose of this

study to compare two groups of students, one group being taught by the traditional method and visual aids, while the second group was taught wholly by the traditional method or without motion picture films and lantern slides.

METHOD. The experimental method was followed in the study. The data for the study were collected from two 7A general science classes in the Laboratory School of Indiana State Teachers College for a period of thirteen weeks. The classes were equated upon the basis of the students' I. Q. rankings. The group known as the experimental group was spoken of as the "X" group and was composed of twenty-one students while the control group was spoken of as the "C" group and consisted of twenty students. Each group was given the same pre-test of the work to be covered during the duration of the unit. The work assigned and the time allotted to each class was alike except that the "X" group was allowed to see motion pictures (16MM) and lantern slides related to their lessons. After the unit was completed the same pre-test was given as a post-test. A second unit was taught in which the previous control group became the new experimental group and the previous experimental group became the new control group. The same techniques that were used in the first procedure were used in the second procedure. This second procedure was used to serve as a check upon the first. The scores of the pre-test and post-test were compared for groups in both units.

FINDINGS. The "X" groups for both units showed definite improvement over the "C" groups. The "X" group for the first unit showed a much greater improvement over the "C" group than the "X" group of the second unit showed over "C" group. This difference was probably due to the fact that more visual aids were available for the first unit than the second unit yet what visual aids were shown enhanced the pupils knowledge of the unit.

Visual aids, when used to present the topics to be studied, serve as motivation for the students. The pupils who saw the visual aids acquired a larger amount of information than did the pupils who did not see them.

Lucas, Theodore E. *Survey of Seventh-Day Adventist Elementary Schools in Intelligence and Achievement*. June, 1938. 52 pp. (No. 336.)

PROBLEM. This study will deal with the intelligence and achievement of four hundred pupils in the schools of the Indiana, Illinois, and Michigan Conferences of Seventh-Day Adventists for the school year of 1936-1937. The grades surveyed were three to eight inclusive.

METHOD. This work is of the "survey-testing" type of research and is one of the most common types of the normative-survey method. Standard tests were used that were easy to understand and had a reasonable amount of popularity in educational circles. They were: Otis Group Intelligence Scale, Primary Examination: Form B. Otis Self-Administering Tests of Mental Ability, Intermediate Examination: Form D. New Stanford Achievement Test, Primary Examination: Form Z. New Stanford Achievement Test, Advanced Examination: Form Z. The data to be used in this survey are the scores made on the above tests; the I. Q.'s of pupils; the educational ages of the pupils based upon their scores; test grades of pupils based upon their test scores; and the classification of pupils according to grade placement.

FINDINGS. Conclusions based on the data in relation to the intelligence of the pupils reveal the group studied to be of high average intelligence, the median I. Q. for the entire group being 107.5.

Conclusions based on the data in relation to the achievement of the pupils reveal the group to be well above the norm in reading, language usage, geography, physiology and hygiene, and arithmetic computation. The group hovers closely to the norm in dictation and arithmetic reasoning but drops below the norm in literature and definitely below in history and civics. Reasons for the place of the class medians as compared with the norms have been suggested during the course of the discussion. Taking into consideration all schools tested the entire results reveal them to be .3 of a grade above the norm.

Van Cleave, Emerson S. *Music Achievement in the 4A, 6A, and 8A Grades of the*

Terre Haute Public Schools as Measured by Knuth Achievement Test. June, 1938. 31 pp. (No. 337.)

PROBLEM. The writer, in making this survey, had four inter-related purposes in mind: (1) to compare music achievement in the 4A, 6A, and 8A grades of the Terre Haute public schools with the standardized norms of the Knuth Achievement Tests in Music; (2) to compare the results of the tests of those having previous private music instruction on some recognized instrument, where note reading is involved, with those who have not had any instruction aside from the regular schoolroom training; (3) to find the correlation, if any, between the composite scores of 108 eighth grade junior high school pupils on the Seashore Talent Tests in Music and the scores made by the same group on the Knuth Achievement Tests in Music; (4) to find the correlation, if any, between the Intelligence Quotient of eighty-four eighth grade junior high school students and their scores in music achievement.

METHOD. The research method was followed in this study. The writer, after obtaining data from 397 4A pupils, 415 6A pupils, and 297 8A pupils of the Terre Haute public schools, proceeded to compare the results with those of the standardized norms set up by the KMAT.

FINDINGS. The writer found the survey to show the following conclusions:

(1) Music achievement standards as measured by the KMAT in the three grade levels of the Terre Haute public schools were approximately twelve points lower than the nation-wide norms.

(2) The median of achievement for those having private music training was far above that of those with schoolroom training only. Those with music training equaled the standard norms of the tests, and in the eighth grade surpassed the standard norms of the nation-wide group.

(3) There was little correlation between the scores in music talent and music achievement in the chosen group.

(4) There was little correlation between the I. Q. and music achievement in the chosen group.

RECOMMENDATIONS. The writer recom-

mends the use of the KMAT as a means not only of determining group standings, but also of analyzing individual needs. The Seashore Tests should also be given to each pupil as a factor in determining the capabilities of the individual student. After this has been done, a working base can be established for the individual needs. Further, a uniform program for the fundamentals of music reading should be established from the lower grades up through the eighth grade. Pupils should be made as familiar with reading music as they are with reading words.

Concannon, Edna Lloyd. *The Growth of Concannon High School as a Force in the Consolidation of Sugar Creek Township, Vigo County, Indiana*. June, 1938. 100 pp. (No. 338.)

PROBLEM. The purpose of this study is to trace the progress of consolidation as it was developed in Sugar Creek Township over a period of twenty years; to compile the history of the Concannon High School which was an important link between the old regime of rural schools and the modern system of consolidation; to determine the effect of consolidation upon the social and educational development of the township; and to collect and preserve all data as a contribution to students, graduates, teachers, and officials in an endeavor to fulfill an oft-expressed desire for a history of the school township.

METHOD. The historical research method was used. All available primary sources which included miscellaneous township and school records covering a period of more than forty years were collected from various sources, examined for pertinent details, catalogued, and filed for future use in the depository of the Concannon School. Various records of the county were examined. The results of tests which had been given in the schools were recorded to determine the efficiency of the system of consolidation. In connection with these primary sources all available material on the general subject of school consolidation was studied.

FINDINGS. After a period of twenty years, the school system of Sugar Creek Township has passed through the experimental

stage and has emerged as an example of complete consolidation. The effects of consolidation are twofold: (1) it affects the community; and (2) it affects the child.

The effects upon the community are: (1) The way for modern improvements in the township was opened by consolidation. Electrification of the community surrounding the schools and better roads throughout the township were natural results of consolidation. (2) Immigration into the township of families seeking rural homes with modern school facilities resulted in revitalization of the township, which has been threatened by decadence.

The effects upon the children of the township are: (1) The health hazards prevalent in the old dilapidated rural schools have been eliminated by the consolidated school with its modern plant. (2) More regular school attendance has resulted from transportation. Children are protected from exposure to bad weather, and the excuses of absences and tardiness due to bad weather and bad roads have been discarded. (3) Morals of children are guarded in the transportation under supervision, and socialization has resulted from the democratic principles developed in "our bus." (4) Better qualified and more experienced teachers are available in consolidated schools. (5) Better organization brings about more efficient graduation of pupils and more time for individual attention to children. (6) Instructional results show pupils in consolidated schools excel the pupils in one-room schools in many branches of the work. (7) An interest in secondary education and a desire upon the part of pupils to continue their secondary education have been brought about by consolidation. (8) The scheme of social security for the rural child has become a forward-looking step in the consolidated school. With the establishment of the school as a social center, the trends of modern culture and enlightenment are advanced, society is integrated, and the present day revival of the best of the early American traditions is placed within the reach of every home within the bounds of the township.

Moss, Herschel L. *A Study of the Equalization of Educational Opportunity in the*

United States. June, 1938. 134 pp. (No. 339.)

PROBLEM. The purpose of this study was: (1) to tabulate definite points contained in the plans of all forty-eight states which assist those states in maintaining a minimum educational program; (2) to analyze the recently enacted laws and rulings concerning the distribution of state equalization funds which are used to maintain a minimum program.

METHOD. A questionnaire consisting of fifty-five questions was sent to the state superintendents of public instruction. Completed questionnaires were returned by twenty-four state departments with equalization programs. Twelve states with equalization programs either returned the questionnaire uncompleted, or failed to reply; consequently, the questions were answered by the investigator, using information available from the recent school laws.

FINDINGS. This study shows almost one-half of the states without an equalization fund law that is able to take care of the differential between the poor unit and the wealthy unit. The more wealthy states are assisting the local units on a census or some other flat rate basis, rather than by equalizing educational opportunities; as a result, the poor unit is given more aid per local school dollar than the wealthy unit, but often that does not permit even the minimum essentials to be given.

North Carolina has shown one of the most interesting developments in the financing and administration of a public school system that we have seen. The outstanding achievement in that state has been the attainment of a state-wide minimum program of eight months' school supported by the state without local taxes to pay any part of the cost. No other states except Delaware and California have attempted anything so elaborate, and those two states have never tried complete financing and administration. The result, in North Carolina, has been that the poorest child living in the most remote section of the state has been guaranteed a minimum standard of educational opportunity equal to that of the most fortunate child living in a more populous center. Both children

have been equally favored from the common resources of the state.

By using the United States as a norm, the ability of each individual state compared with the United States as a unit is shown. The attempts and efforts toward equalization are found to be many times greater in the states which are less wealthy than are the attempts toward equalization in the more wealthy states.

The states of Rhode Island, Wyoming, Michigan, and Wisconsin are the outstanding states in the more wealthy group that have made a conscientious effort to equalize educational opportunity.

It is a paradoxical fact that the states having a poor equalization set-up are satisfied with their programs, while those having a very efficient equalization program are still very much dissatisfied, and are anxious to make needed improvements.

Wright, Nora R. *An Analysis of Achievement and Attendance in Relation to Physical Defects in Certain Elementary Schools in Terre Haute*. June, 1938. 83 pp. (No. 340.)

PROBLEM. This study was undertaken with a twofold purpose: (1) to determine how physical defects affect achievement in school children; and (2) to determine how the same defects affect school attendance.

METHOD. The research method was followed. The entire enrollment of the fifth and sixth grades of eight elementary white schools in Terre Haute was given the Pintner Group Intelligence Test. From this group of 526 pupils all with intelligence quotients of ninety or above were selected for the study. The "matched control" type of investigation was adopted.

After all necessary eliminations were made a group of 285 remained. Of this group one hundred thirty-one pupils with one defect and thirty-one with two defects were matched for grade, race, sex, and intelligence quotients with a group of pupils with no defects.

FINDINGS. Pupils with one defect averaged .1 point or 3 7/11 per cent lower achievement marks than those with no defects.

Pupils with two defects averaged .25 point or nine per cent lower than those with no defects and $5 \frac{4}{11}$ per cent lower than those with one defect.

Pupils with defects of vision, those with defects of breathing, and those with defects of teeth averaged respectively 5, $6 \frac{2}{11}$, and $4 \frac{3}{5}$ per cent lower marks of achievement than pupils with no defects.

Absence in the one-defect group was highest in the group with defective vision. The average time lost was 7.1 days. The defective hearing group ranked second with an average of 6.6 days lost, those with defective teeth ranked third with an average loss of 6.4 days, and those with defective breathing were fourth in rank with an average loss of 5.8 days. When compared with the median absence of the control groups in all grades studied, those with poor vision lost $77 \frac{1}{2}$ per cent more time by absence than pupils with no defects, pupils with defective hearing lost sixty-five per cent more time, those with defective teeth lost sixty-two per cent more time, and those with defective breathing forty-five per cent more time.

Horan, Sister Rose Angela. *An Investigation of the Ideals of Present-Day Adolescents*. June, 1938. 321 pp. (No. 341.)

PROBLEM. This study was undertaken to investigate the ideals of present-day adolescents with a view to determining: (1) whether high-school boys and girls of today are consciously selecting ideals as guides in their daily life; (2) if they are doing so, what the nature of these ideals is, what factors influence them in their choice, and to what practical use they are putting these ideals; (3) to what extent the preferences and attitudes of adolescents toward recreational, home, vocational, and friendship interests reflect wholesome standards; (4) in what spirit they approach the subject of ideals and respond to this investigation.

METHOD. Data were secured through 1,777 questionnaires representing tenth and twelfth grade girls and boys in six high schools of central Indiana and in five of southern Indiana, both Catholic and public. Data were tabulated and comparisons were made on the basis of school (Catholic

or public), sex, and grade.

FINDINGS. Fifty-nine per cent of the 1,777 adolescents had selected a definite ideal, and the greatest number had made the selection between the ages ten and thirteen.

Parents, adolescents themselves, and teachers had been the most influential factors in the choice of these ideals.

Sixty-one per cent of the ideals chosen were ideals of character, with the specific virtues, purity, moral courage, and honesty ranking highest. An analysis of these ideals and the practical application of them to specific situations leads one to infer that the ideals are functioning with an average degree of consistency.

Teachers exert their greatest influence through their philosophy of life, their conduct, and their opinions. The subjects they teach are of comparatively little significance in the development of pupils' ideals.

Boys and girls urge that the school stress ideals more, that it provide opportunities for discussing topics of this nature more fully and more frequently, and that it employ teachers of high ideals, capable of inspiring the desire for them in others.

Spiritual ideals appear to exert more pronounced influence upon youth than social ideals, and the desire of pleasing God motivates them to a greater extent than does the fear of punishment.

Religion is a source of great spiritual happiness to youth principally in the sense of security, strength, courage, and peace which it engenders.

Adolescents associate the following practices with persons of comparatively low standards: smutty talk, lack of respect for authority of parents, low-type reading, habitual smoking by girls, vulgarity of manners, stealing, and cheating. They feel that the qualities young persons need most to develop are: courage to do right in spite of the "crowd," moral cleanness, self-control, respect for parents and family, and truthfulness.

Recreational preferences show that adolescent tastes in the choice of motion pictures are on a higher level than their tastes in the choice of magazines and radio programs. The desire for home entertainment is not superseded by a desire for

commercial entertainment where home conditions and congenial spirit of parents and family favor the former.

Youth desires eagerly to break down the

barriers of reserve between itself and its parents and to enjoy more confidential and companionable relationship with them.

Around The Reading Table

PRESCOTT, DANIEL A. *Emotion and the Educative Process*. American Council on Education, Washington, D. C., 1938. 323 pp.

This is a report to the American Council on Education by a committee of eight of which Daniel A. Prescott is chairman. The book, therefore, reflects the combined judgment of the eight members of the committee. It is the outcome of about four years of investigation but "professes to be only an exploratory study." As the title indicates, it undertakes to investigate the place of the emotions in the process of education. While many of the findings are tentative, the committee is emphatic in pointing out that education has been for too much concerned with the acquisition of knowledge to the neglect of the affective side of development. It points out that while neutral detachment is desirable in the scientist, "It has been unduly extended to other spheres of life to the impoverishment of the life of American youth." It charges that the educator of today has not come to grips with the problem of personality development and consequently education has largely failed to influence and guide American civilization as it should. While educators have mouthed proper personality development as the desired end of education, they have done practically nothing about it.

Attention is called to the fact that much research needs to be done in this field before we are on solid ground in directing the educative process. It points out that educators write voluminously about the objectives of education with little data to support their conclusions.

The book is unusually stimulating and should be in the hands of every teacher from the kindergarten to the university. It should also give direction to future research in the field of education.

—R. A. Acher

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BAKER, G. M., F. M. WARNOCH, and G. D. CHRISTENSEN. *Graded Lessons in Fundamentals of Physical Education*. A. S. Barnes and Company, New York City, 1938. 367 pp.

To develop skills in the lower grades, there should be a steady progression of fundamentals from grade to grade. This book was written for classroom teachers as well as for physical educators. Due to inadequate background or pressure of other duties, teachers need help in ways of proceeding with the physical education curriculum.

Included in the book are representative lesson plans for grades one through six. The common fundamentals of a physical education program are included in these plans.

The Unit of Work Plan: The work of the six grades is arranged in units such as —1. Playground games for repertoire and self-direction. 2. Fundamentals of ball skills for control of an object. 3. Fundamentals of balance and direction applied in self-testing activities, posture, and games. 4. Fundamentals of rhythmic activity applied in free rhythms, folk dancing, ball skills, rope skills, and tumbling. 5. Review of all fundamentals in old or new situations. 6. Basic principles of health integrated with motor activity throughout all units.

The authors admonish each teacher who uses the lesson plans to draw upon her common sense and teaching vision to adapt them to her particular group. Suggested procedure for general adaptations is included.

The authors experimented with this material for two years in one of the elementary schools in Minneapolis, and it was tried out in tentative form by twenty teachers in other cities. The book, therefore, offers a program that has been tried and tested by actual use.

—Mary Fread

Indiana State Teachers College

MEICHE, E., AND MARIE BARRETT. *Characteristics and Classification of Animals*. Standard Printing Company, San Antonio, Texas, 1938.

This large chart recently received will be of interest to zoologists and laymen interested in zoology.